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ABSTRACT

This paper on electronic fact books begins with a section that presents background on fact books, dating back to the publication of "Statistics of Land-Grant Colleges and Universities" by the U.S. Office of Education in 1867. The second section considers advantages of fact books as data resources and for decision making, planning, self study, and communication. The need for an electronic fact book is addressed in the third section, including the advantages of an electronic or online fact book related to marketing, decision support, management reporting, dynamic information, display format preferences, cost effectiveness, availability, time saving, browser friendliness, and multimedia capabilities. This section also describes the decision to develop a World Wide Web fact book at Union County College (New Jersey). Issues associated with fact books are considered in the fourth section, including audience, content, maintenance and updating, space utilization, and software. The fifth section provides a list of software used in designing Web pages, categorized as follows: HTML primers; Web authoring tools; file transfer software, graphic software composers; and multimedia. The last section describes the planning, constructing, and posting phases of the Union County College online fact book development. (MES)

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Electronic Fact Book: A Reality of Today

Gurvinder K. Khaneja and Amarjit Kaur

Institutional Research Offices are often inundated with projects, some of which are recurrent in nature, while others are just one-time challenges. A small question to a large report requires a retreat to many complex institutional databases for answers. Therefore the institutional researchers are often using their critical thinking skills to find out ways to economize yet retain efficiency in their working situations. While the growing needs of the office require additional personnel to carry out routine and complex jobs, the fast paced technology is offering simplified solutions that were unthinkable not a long time ago. It is apparent that due to constant decreases in funding, more legislative queries, downsizing and privatization, the future success of an Institutional Research Office lies in the ability to serve as complex information brokers using cutting edge high technology tools.

It is interesting to know how the presentation and dissemination of the information has changed due to the presence of Web. There has been a revolution in the infrastructure of the information due to it and it forces Institutional Researchers to envision it's most effective usage. With this background, the Institutional Research Office at Union County College decided to initiate it's presence on the web via it's Common Data Set and Fact Book. The present paper includes a brief background on the Fact Books, their advantages, need for an electronic Fact Book, issues associated with Fact Book and software used in designing web pages.

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Background

Way back in 1867 the US Office of Education published a document entitled "Statistics of Land-grant Colleges and Universities", a well accepted document that quantified and summarized information that was probably required by dozens of offices and departments. The collected information was regarding students, degree, faculty and finances in higher education. The reason to bring about such a document was to increase efficiency of the office by reducing redundancy and answering to diverse audiences at the same time. Later many institutions joined the trend and came up with Institutional Fact Books which helped them do a multidimensional tasks in a single project. Some institutions did the project every year while others did it every second year or so as per their institution's requirements. However, some institutions did not go for it because of the cost and time associated with it.

Fact Book and it's advantages

As the name suggests "Fact Book" is a collection of basic facts about any entity in one place. The objective behind the Fact Book is to collect relevant information in any one place that helps in decision making, communication and planning, while serving as an excellent source of comparison. It allows meaningful interpretations, trends analysis and reviewing of the information.

A Fact Book allows a researcher to use his creativity in accumulation and presentation of the opulent information of the institution. For this reason we often find Fact Books in various shapes and sizes, including plain data, colored graphics, pictures etc. However, the goal remains the same, as it was when they were first published, i.e., to collect relevant information in one place. The following are some of the advantages of a Fact Book:

1. Data Resource. A Fact Book is a resourceful document that summarizes important current and historical data about the organization. But more important, the data is reliable, consistent, uniform, comparable and confirms to the national/regional data definitions.

2. Decision Making. A Fact Book provides reliable base-line data, trend data and comparative figures required for inquiry and analysis by decision-makers. It helps researchers to provide information in one document to a diverse group of decision-makers across institutions.
3. Planning. A Fact Book provides information to planners who are continually trying to see where they were years ago, where they are now and where they could be tomorrow. The trends in Fact Book data assist them to carve a better future for the institution.
4. Self Study. Researchers who have been through accreditation processes are often expected to provide a variety of reports and provide data on various issues related about the institution. A Fact Book provided to the accreditation teams, prior to their visit, helps them understand the institution better. It may provide additional information and certain perspectives of the institution that may not be available elsewhere.
5. Communication. A Fact Book provides the user a communication means to the audience. It links to communicate a range of direction that is able to "link diverse groups into a natural commitment towards the advancement of the total institution".

Need for an Electronic Fact Book

The fast pace of technology is changing the mode of many institutions. It has already created it's impact in the work places and has allowed the users to perform a multitude of functions easily and in less time than ever before. More and more institutions seem to be connected on-line, i.e., services are being provided to the students on-line, modes of delivery are on-line and so on. In such circumstances it is not surprising to find institutional researchers involved with it. However, the researcher has to think critically about what he wants on-line that can be effective and efficient.

In his book "Being Digital", Nicholas Negroponte (1995) has rightfully stated that the fundamental particle for the information age is not the atom, but the bit. As more and more of the world's infrastructure is built, much of the information we get, i.e., text, images, sound and video, is being delivered by bits. In it's simple form an electronic Fact Book is the paper bound Fact Book displayed on a computer screen. Michael Marontette

(1995) suggests that an electronic Fact Book functions as a campus wide information source. Any user who is interested in general information about the institution can access the electronic Fact Book and obtain information. So the access is easy and wide. Some of the advantages of an electronic or on-line Fact Book are:

A. Fact Book as a Marketing Tool. Due to it's wide and easy access, a Fact Book can be considered as an excellent marketing tool. Prospective students, their parents, donors, potential faculty and the general public can access the electronic Fact Book to get the information they need. Due to no postal costs it is an efficient tool for the institution and the audience.

B. Decision Support Tool. The dynamic electronic Fact Book can supply institutional executives, college and department administrators or IR professional information for decision-making purposes.

C. Management Reporting Tool. Reports can be produced using the electronic Fact Book that have an impact on the institution's operational procedures.

D. Dynamic Information. The information in the paper bound Fact Book may be year old but the electronic Fact Book can be updated quarterly, monthly, weekly or as the new information is obtained. So the most current information is accessible.

E. Display Format Preference. The paper format can be printed out of the electronic format as and when needed so flexibility is available.

F. Cost effective. The costs associated with paper, printing and mailing are totally saved here. Once the Fact Book is on the web, marketing it in the college paper, newsletter etc. would help people to access it. Access to a Fact Book was limited when it was a paper document due to the high cost of presenting especially when it was printed in color.

G. Available Anywhere Anytime. The on-line data is available anywhere anytime provided the tool, i.e., the computer, is available to access it and a modern browser to surf.

H. Time Saver. The bits are transferred faster or slower depending on the hardware of the computers but it is certainly faster than an interoffice request. It is an easy and time saving effort as it can be done through a PC any time.

I. Friendly Browsers. The latest browsers are so user friendly that they guide the person to what he/she is looking for.

J. Multimedia Capabilities. The multimedia supporting capabilities allow you to make your Fact Book colorful, print graphs, have motion and audio features that make it very interesting.

With such advantages to support the project, the research office at Union County College decided to put their Fact Book on the World Wide Web. However, even before the Fact Book, the IR office at UCC posted the "Common Data Set" on the web, which was an exciting and successful venture. The Fact Book was perceived to be similar to the "Common Data Set" as it involved an information transaction which may be either in the form of a hard bound report or a response to an internal or external questionnaire that is received by the Institutional Research Office on a daily basis.

It is well known that IR offices are expected to fill out innumerous questionnaires that are basically collecting the same information with a few questions specific to them. Like other institutions, the Institutional Research Office at Union County College was also involved in filling out these innumerous surveys. Therefore the collective efforts of College Board, Peterson's, Wintergreen/Orchard House and US News in producing the "Common Data Set" was perceived as a very positive step by the IR office. Though the "Common Data Set" was still in the evolving phase it's earlier version was manipulated to suit the Community Colleges and with the help of Microsoft FrontPage software it was published in the cyberspace. We were, however, astonished to find that the external agencies were agreeing to take the information from our home page and spared us the agony of filling out the long forms. With the success of our first venture we decided to publish our first on-line Fact Book.

The model chosen for our on-line Fact Book was based on our colored Fact Book that was well received during our Middle States re-accreditation team visit. We had categorized the sections as admissions, enrollment, degrees conferred, faculty, finances, facilities, instruction, financial aid and alumni. To start with we decided to work with four sections i.e., enrollment, faculty, degrees conferred and alumni. The reasons for selecting these was partly because they were most useful to consumers, i.e., the students,

and some of our finest graphics and pictures were there. Also, we had to be sensitive to the fact the audience changed from the college community to practically the entire world. As we shall discuss further a combination of software was used to publish our Fact Book on the web.

Issues Involved in the On-line Fact Book

Some of the issues that may be involved with on-line information are as follows:

1. Audience. It is evident that the audience would change when you put your Fact Book on-line or for that matter any information on-line. The on-line information is accessible to the entire world so the information needs to be scrutinized carefully for content and interpretability by the public.
2. Content. As a marketing tool most people outside the institution are assumed to be interested in the programs offered, enrollment, degrees obtained. However data regarding finances or comparisons among peer institutions are complex and require critical thinking so as to avoided any unnecessary misinterpretation. What information one is attempting to address is a matter of decision making which should be given serious attention.
3. Maintenance and Updating. With the Paper Fact Book version the researcher perceived it as an annual or biannual project and updated it at the regular intervals. However, with an on-line Fact Book it may not work the same way. A responsible and trained individual is required to update the information as and when required. Though data regarding enrollment, degrees conferred and faculty is updated annually, information dealing with new personnel or adding new articulation agreements etc. may require constant updating.
4. Space Utilization. As the department goes on-line a certain amount of space may be allocated to each of them for the homepage. The researcher has to clearly think about what he/she wants on the web. The information should not be redundant but meaningful and efficient. The allocated space may not be large enough for everything that you have in the paper Fact Book but only for some exemplary portions that would help the prospective audience.

5. Software. Selecting software is very critical to the building of any on-line document. Though initially researchers learned the Hypertext Markup Language (HTML) or a language that converts the information into on-line format, currently there are software like FrontPage, Home Site, BBedit, pagemill etc. that help in publishing the document on-line. However, a working knowledge of HTML is certainly helpful.

Software Support

In this section the emphasis will be on the software that is available in the market. Also how and what software were used to design the on-line Fact Book by the IR office at Union County College will be discussed. One of the big questions faced by the user is where to start, what is available and how much training is required. Though the importance of HTML language cannot be ignored in designing a web page, Microsoft and others have available various software that are amazingly simple and user friendly. These software are user friendly, require minimum training yet provide fascinating results. A new user is advised to make full use of the free web publishing material that is available on the web and then explore the range of software available that is best suited to their needs. A list of tools that may be helpful to the user is categorized as follows:

I. HTML Primer

The Hypertext Markup Language or HTML is the basic language that is used to attribute documents on the World Wide Web. Though the new web publishing tools are helping the user to create web sites without directly using this language, a basic knowledge of this language is definitely helpful in understanding the web structure of your material. Some of the references for accessing the documents are:

1. A Beginner's Guide to HTML:
   http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimerAll.html
2. The HTML Quick Reference Guide:
   http://kuhttp.cc.ukans.edu/lynn-help/HTML-guide.html
3. Complete Guide to HTML:
   http://www.emerson.emory.edu/services/html/html.html
4. The Bare Bone Guide to HTML:

http://werbach.com/barebones

II. Web Authoring Tools

1. FrontPage '98 - is a virtual client/server web publishing document from Microsoft. The editor provides WYSIWYG editing, built in spell check, and easy creation of links and clickable images, form creation and image type conversion etc. FrontPage 2000 is on the way and is expected to have some modified and additional capabilities to create a web page.
2. Home Site - generates a "pure HTML" unlike many WYSIWYG tools. It has a clean interface, color coded tags, spell checker and built in FTP service.
3. NetObject TeamFusion - is a site oriented application that gives unprecedented visual control over the design and production of the entire web site. It's one of the first applications that combine automatic site building, professional quality design and data publishing features.
4. BBEdit 5.0 - is a Mac text editor that includes HTML syntax, spell checker and link checker as well as the usual array of tools to automate mark up.
5. Adobe Page Mill 3.0 - has a WYSWYG interface, drag and drop page creation mode, integrated site management features with search and replace capabilities including over 10,000 web ready images and animations.
6. Microsoft Office '97 - provides the capability of producing software in Word, Excel or PowerPoint that can be saved in the HTML format, i.e., easily usable in any of the above software.

III. File Transfer Software

1. File Transfer Protocol (FTP) software - is used to post your page on the web site so that it can be viewed on any of the browsers.
2. FETCH – is a software that can be used to post web pages from MAC to the remote web site.

IV. Graphic Software Composer

1. Image Composer/Corel Draw - provides effective visual display and will require image editing software like Image Composer that comes bundled with FrontPage, Corel Draw, Paint Shop Pro and Adobe PhotoShop.

V. Multimedia Capabilities

Royalty free clip art gallery from Corel called Image Gallery can be used for image/audio/video clip arts. The sound segments can be edited using sound-edit16 sound forge software. The video segments can be edited using Adobe Premier. A collection of sound clips from Musicopia provides enticing audio clips in WAV and AIFF format.

Union County College's on-line Fact Book

The IR office at Union County College worked in two phases to create their on-line Fact Book. Though initially FrontPage was used as the primary web Authoring tool to create the web site, not long after the site was reconstructed using NetObject TeamFusion to maintain consistency with the other institutional sites. The entire process can be summed-up in three phases i.e., planning, constructing and posting.

I. Planning of the Web Site - involved learning, research and delineating the information that was deemed necessary to be posted. The IR office worked with the same model as used in the hard bound colored Fact Book. Earlier, with the support of the institution, the researcher involved took a workshop at NEAIR and studied the HTML primers to understand the concept of the web page. However, it involved further research in terms of what was already published and how people perceived the end product. Research was also involved in finding free graphics and images that were available on the web and could be used to enhance our web site. The planning process also entailed understanding the site structure, links and attributes, i.e., images, sound etc. that accompanied each page. Exact, updated information with graphics and links was printed and discussed. Finally a draft was ready to be replicated by the Web authoring tool for the web site.

II. Constructing the Web Site - involved transforming the paper bound ideas to the reality of the web page that could be viewed by any browser. This was also done in two phases, i.e., using FrontPage and NetObject TeamFusion Software. The data with charts and graphs already existed in Microsoft Excel software and to save time and efforts it was decided to transform the files from Excel to HTML format directly. One

of the features that has been added to Office'97 is an easy conversion of Excel documents to HTML format files. So the selected tables, charts and pictures were converted and saved as HTML and GIF files. These HTML files were then imported to the Microsoft FrontPage '97 software. It should be noted that the graphs and pictures were saved as GIF files, i.e., they are saved as images and the tables are HTML files (with extension *.HTML or *.HTM). The next step involved cleaning the tables and activating the images. The tables were resized to fit the space available at a screen resolution and modified with borders etc. The graphs and images, however, presented a different problem. They were captured from the Excel platform with a certain size and so they had to be re-sampled. Corel Draw allowed the pictures to be re-sampled and so they were resaved and added to the page. Some of the pictures/maps of UCC, New Jersey and the USA were also added to the page and information had to be imposed on them. So the Image Composer software was used and the numbers or words were added to the picture/maps. Appropriate links were provided and tested to make sure they were working. Animation and images were added to the page to make an attractive appearance. Microsoft FrontPage software is a user-friendly software which allows you to easily create your web page and view it on the browser simultaneously so that you can see the desired effect. A simple tutorial will allow the user to create a simple page in a matter of days. However, a few limitations were encountered, especially in formatting the document, which the user overcame with the use of HTML basic language. Improvements have been made in the latest version of FrontPage i.e., '98.

The second phase was encountered after approximately a year when the college decided to give a consistent look to the entire college homepage using NetObject TeamFusion software. This in essence meant that the IR site had to be transferred from the local vendor site to the college server and make it consistent with the design chosen for the site. As a result the IR web pages were transferred on the server and reorganized. The reorganization occurred in reference to the space available for the actual page on the site since master borders and labels were added. The other changes included color scheme, background, adding indexes, resizing and re-sampling tables, charts, pictures and

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maps. Though it involved creating a new site, it was decided to extract the already existing web pages and modify them. New graphical motifs were designed to enhance the meaningfulness of the site and lot of experimentation occurred. The links had changed now so they had to be reset and re-tested so that they worked well on the browser. The result was consistent and exemplary. As one of the aims was to make the site more appealing and interesting to the viewer, music was added to each page which could be enabled or disabled at the viewers request and the page was ready to move.

III. Posting of the Web Pages - In phase I when the web page was created using Microsoft FrontPage software the files had to be imported to the site server using transfer software. Therefore, the File Transfer Protocol or FTP software was used to send the files to the site and tested.

NetObject TeamFusion has the in-built capability of posting pages to the server without use of the FTP software and so once the previewed pages were found to be satisfactory they were posted to the site assigned to the IR office and were ready for the world to be viewed.

Our web site address for Fact Book is:

http://www.ucc.edu/assessment/admin/fact_book.html

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